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| 10/800,720      | 03/16/2004  | Hirozumi Ogawa       | M1071.1904          | 1031             |

7590

06/08/2006

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| EXAMINER |
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HOFFMANN, JOHN M

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| ART UNIT | PAPER NUMBER |
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1731

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                              |  |
|------------------------------|-------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/800,720 | Applicant(s)<br>OGAWA ET AL. |  |
|                              | Examiner<br>John Hoffmann     | Art Unit<br>1731             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.  
 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-14 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6767503 in view of Kingery "Introduction to Ceramics, page 10.

Present claim 1 is substantially the same as claim 1 of the patent. Present claim 1 also requires the use of a metal mold. As indicated in the second paragraph of Kingery, the use of a metal mold is the simplest method of compacting ceramics. It would have been obvious to use a metal mold, because of its simplicity, in the patented invention. The claim also does not require the specific ceramic of the patented claim. It would have been obvious to use the process on any other ceramic depending upon what ceramic final product is desired.

Claim 2 corresponds to patented claim 5,

Claims 3-10 correspond to patented claim 7. Whereas the present claims do not require all the same limitations, they would encompass the same invention – and thus – if a patent were to issue – would inappropriately extend applicant's monopoly.

Claim 11 corresponds to patented claim 2.

Claim 12 corresponds to patented claim 3.

Claim 13 corresponds to patented claim 4.

Claim 14: it would have been obvious to make the mold of whatever shape/configuration – depending upon what shape of a final product is desired.

**From MPEP 2144.04**

**B. Changes in Shape**

In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

It is noted that Applicant has not argued that claim 14 does not provide any additional patentable limitation over the art of record.

***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirao 5902542 in view of Kingery "Introduction to Ceramics" page 10, or alternatively both Hirao and Kingery in view of Kawai 6199404 and Adachi 6042667.

Hirao discloses the invention as indicated in the prior Office action, but not the use of a metal mold. However, as per col. 4, lines 55-58 (and col. 6, lines 34-36) Hirao teaches to press the stack of ceramic sheets – just like Applicant discloses doing. But Hirao does not disclose the mechanism used to press. The first sentence of the second paragraph on page 10 of Kingery, it is discloses that pressing with a metal mold is the simplest method of compacting. It would have been obvious to use a metal mold to do the Hirao pressing to obtain Hirao's "prescribed thickness" because use of a metal mold is known to be the simplest method for compacting ceramics.

Whereas the Office may have previously indicated that Hirao does not have the length of the pressing axis decreasing. This is no longer the Office's position. As per col. 4, lines 55-58, the stack is pressed to get a prescribed thickness. Since pressing cannot increase the thickness, it must be decreasing the thickness/length.

As to the area increasing. 1) It is deemed that it would have been inherent. Since Hirao's ceramic was pressed to get a particular thickness, the extra material would have to move/flow somewhere. The area would have to expand. Examiner gives Official Notice that "Conservation of Mass" is a well known law of science that says mass can neither be created or destroyed. (2) Alternatively, Kingery indicates that the pressure is a result-effective variable. It would have been obvious to perform routine experimentation, to determine the optimal pressure during the pressing step. Kingery

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indicates that strength depends on the compacting pressure. And Hirao at col. 1, line 22, indicates high mechanical strength is important. And (3) as indicated in the prior Office action, Kawai and Adachi demonstrate that the claimed deformation of the ceramic would have been obvious.

For the dependent claims 2-14, see how the claims were previously met in the prior Office action and above.

### ***Response to Arguments***

Applicant's arguments filed 13 April 2006 have been fully considered but they are not persuasive.

It is argued that reliance on Kingery is misplaced because Kingery refers to powdered ceramics, not sheet ceramics. Examiner disagrees: switching the form of the material does not complicate a compaction process. Kingery is clear evidence that using metal molds is well known in the ceramic processing art.

It is further argued that Kingery teaches away from the invention because a metal mold leads to pressure gradients and other problems. This is not persuasive. The portion of Kingery that applicant appears to refer to states, "One limitation is that for a shape with a high length-to-diameter ratio..." This limitation is irrelevant. The patent claims are directed to "sheet product": its length to diameter ratio is very small.

It is again argued that Hirao has no teaching that the orientation degree can be changed. The relevance of this is not understood – the claims do not require a step of changing a degree. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Nevertheless, Hirao clearly shows that grains are oriented.

It is then argued that the change is a necessary consequence of the claimed method. This assertion is not substantiated by any evidence. ON the contrary, Applicant argues Examiner's position: "pressing can orient particles" (page 7, lines 11-12 of the 13 April response. It is noted that the claims as claimed read on a process where the (pre-pressed) sheet product is made in a manner where the grains are already oriented in a flat manner (i.e. 100 % oriented). In such a situation, the orientation is NOT CHANGED. Thus, a change is not a necessary consequence of the claimed method.

Or to put it another way: applicant admits on page 7 the 13 April 2006 that that a change of orientation is a "necessary consequence" of the rest of the claimed steps. Then it is a necessary consequence that the Hirao would also have the change.

Still further, Applicant appears to admit that the "necessary consequence" "...also assumes without any basis that the sheet area is not already constrained by the sides of the mold." Since claim 1 does not preclude side restraint, the method of claim 1 can be performed without changing orientation.



Regarding claim 4 it is argued that rods are cylindrical and not flat. As pointed out previously, Examiner could find nothing in the present specification or prior art that would suggest that the claims exclude rods that are lying flat, such as what Hirao has.

The PTO gives a disputed claim term its broadest reasonable interpretation during patent prosecution. Hyatt, 211 F.3d at 1372. The “broadest reasonable interpretation” rule recognizes that “before a patent is granted the claims are readily amended as part of the examination process.” Burlington Indus. v. Quigg, 822 F.2d 1581, 1583 (Fed. Cir. 1987). Thus, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. In re Prater, 415 F.2d 1393, 1404-05 (CCPA 1969). Additionally, the broadest reasonable interpretation rule “serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified.” In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting In re Yamamoto, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984)).

Thus, even if one appropriate definition for “flat” would exclude rods which lie flat. The claims would not be limited to such a narrow definition, since broader definitions exists and are reasonable. Applicant seems to suggest that the Office’s interpretation is unreasonable – but there is no basis or explanation as to why it is unreasonable.

IT is also argued that Adachi does relate to increasing the orientation degree – the relevance of this is not understood: the claims do not require such.

It is argued that Kawai an oriented formed product is not realized. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is argued that Applicant’s electromechanical coupling coefficient result is clearly new. The relevance of this argument is not understood: the claims do not require this

result. Since the claims encompass embodiments that do not have the new result, and since the new results would not be of any relevance to embodiments that do not have the new results, the new results cannot serve to overcome the rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jmh

John Hoffmann  
Primary Examiner  
Art Unit 1731



6-6-06